Improving staff confidence and morale through rapid, structured trust-wide technology-enhanced training in the use of COVID-19 personal protective equipment at Oxford University Hospitals

James Sang Woo Hong 1, Kritica Dwivedi 2, Bronwyn Gavine 3, Naresh Rughooputh, 4  Angeline Lee 4, Claudia Salvagno 4, Helen Higham 4

Dear editor

As the case numbers of COVID-19 were on the rise in the UK, Li et al’s article1 served as a timely guide to mounting and adapting our own education and training response at Oxford University Hospitals NHS Foundation Trust (OUHT). They highlighted the importance of simulation and technology-enhanced learning (TEL) in delivering essential training, for example, in the use of personal protective equipment (PPE) to enhance the safety of patients while providing a safe environment for healthcare workers (HCWs). Reflecting on our recent experience, we respond largely in agreement with Li et al1 regarding challenges in TEL implementation, along with problems applicable to the field of TEL as a whole.

Starting 23 March 2020, the Oxford Simulation, Teaching and Research (OxSTaR) team at OUHT rapidly designed and deployed structured Trust-wide training and education programmes in areas of critical importance: PPE, skills training (for intubation and proning teams) and intensive care unit induction. The aim was to develop a multimodal training approach, supplemented with simulation and TEL, to address uncertainty over COVID-related best practice and concerns regarding safety. Here, we will focus on reporting our experience of using online learning during the pandemic, as guided by the salient points discussed by Li et al.

In developing a webinar, our key areas of focus were

1. Learning engagement and real-time feedback.
2. High-quality delivery of online learning.
3. Efficiency—prudent and efficient use of training resources and faculty, time-efficient delivery and opportunity for self-paced learning.
4. Safety of participants (e.g. ensuring social distancing).
5. Multidisciplinary support from management and relevant departments.

Our aims were to

1. Provide up-to-date guidance on PPE.
2. Increase confidence in the use of PPE.
3. Provide expert responses to participants’ questions.

We designed and delivered webinars which were open to all staff. The content included the latest PPE guidelines, where to access resources and how to escalate concerns. In order to ensure learner engagement and real-time feedback, videos demonstrating donning and doffing of PPE and a live question-and-answer session were included. This enabled engagement with over 100 attendees in real time while following social-distancing measures.

Course delivery quality was a key consideration: several platforms were trialled; a high-quality microphone was used to improve sound quality; and a quiet area was identified to record the webinar from. Additionally, we wrote a ‘how to’ manual so that all teaching staff would be able to use the same webinar platform in the future. The webinar was recorded and posted on an outward facing site to support self-paced learning and revision.

Data from one of two trust-wide PPE webinars were analysed for quality control purposes (figure 1). A total of 118 people attended, the majority of whom were doctors (52%) ranging from foundation year to consultant level. Nurses, allied health professionals and administrative staff were also in attendance (figure 1B). Staff from all four OUHT hospitals were in attendance. Our webinar reached multiple specialties (figure 1A), with greatest representation from medicine (31%) and surgery (21%).

Immediate feedback through prewebinar and post-webinar questions was gathered (figure 1C). This aimed to assess the impact of the webinar on staff anxiety, confidence in accessing up-to-date resources, and escalating concerns. Staff scored their anxiety or confidence on a 1–10 Likert scale. We saw a mean decrease of 23% in staff anxiety and an increase of 43% in confidence in accessing information. Staff confidence in escalating concerns increased by 48%. On average, staff found the webinar very useful (8.5±2.06) and highly recommended it as a format for future updates (8.63±1.99).

While this is a limited survey, these findings demonstrate that the use of webinars to supplement PPE training improved staff morale, increased confidence in safe use of PPE and decreased the anxiety of webinar attendees. Additionally, it met our criteria for engagement, quality, efficiency and safety.

Our results are consistent with reports that nearly all modes of TEL, as a supplement to traditional methods, improve clinician knowledge, skills and behaviours.2 However, certain challenges of online learning, such as monitoring the progress of the trainee,3 remain. This is compounded by uncertainty regarding the most effective methods of TEL delivery and evaluation in healthcare.3
has played a vital role in supporting healthcare professionals during this pandemic and should continue to do so afterwards. In agreement with Li and colleagues, our experience confirms the importance of quality checking, organisational collaboration and shared learning. Further research into effective methods of delivery and evaluation of TEL would benefit both workers who deliver care and patients who receive it.

Twitter James Sang Woo Hong @jswh_hong, Bronwyn Gavine @BronwynGavine, Angelina Lee @ng1Dg, Claudia Salvagno @claudiasalvagno and Helen Higham @HelenHHigham

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ORCID iDs
James Sang Woo Hong http://orcid.org/0000-0001-8864-6292
Kritika Dwivedi http://orcid.org/0000-0003-0915-7250
Bronwyn Gavine http://orcid.org/0000-0002-8293-9024
Angelina Lee http://orcid.org/0000-0001-6068-2689
Claudia Salvagno http://orcid.org/0000-0002-0801-7419
Helen Higham http://orcid.org/0000-0001-5796-0377

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